2/10/06

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name: Detrex Corporation
Facility Address: 12886 EATON AVE, SITE A, DETROIT, MI 48227
Facility EPA ID #: MID 091 605 972

1. Has **all** available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

   ☒ If yes - check here and continue with #2 below

   ☐ If no - re-evaluate existing data, or

   ☐ If data are not available, skip to #8 and enter "IN" (more information needed) status code

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide))

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

2 Is **groundwater** known or reasonably suspected to be **"contaminated"**[1] above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

- ☐ If yes - continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.
- ☒ If no - skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not "contaminated."
- ☐ If unknown - skip to #8 and enter "IN" status code.

Rationale and
Reference(s): _____
Facility has a groundwater not in an aquifer determination dated January 16, 2004, with conditions Conditions were satisfied in the RFIWP Report submitted March 29, 2004.

Footnotes:
[1]"Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"[2] as defined by the monitoring locations designated at the time of this determination)?

☐ If yes - continue, after presenting or referencing the physical evidence (e g , groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination"[2].

☐ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination"[2]) - skip to #8 and enter "NO" status code, after providing an explanation

☐ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):_____

[2] "existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be sampled/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e , including public participation) allowing a limited area for natural attenuation.

4 Does "contaminated" groundwater **discharge** into **surface water** bodies?

☐ If yes - continue after identifying potentially affected surface water bodies.

☐ If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.

☐ If unknown - skip to #8 and enter "IN" status code

Rationale and
Reference(s):_____

5 Is the **discharge** of "contaminated" groundwater into surface water likely to be **"insignificant"** (i.e., the maximum concentration[3] of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

☐ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration[3] of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system

☐ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration[3] of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

☐ If unknown - enter "IN" status code in #8.

Rationale and
Reference(s):_____

[3] As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone

6. Can the **discharge** of "contaminated" groundwater into surface water be shown to be "**currently acceptable**" (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented[4])?

☐ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR
2) providing or referencing an interim-assessment,[5] appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

☐ If no - (the discharge of "contaminated" groundwater can not be shown to be "**currently acceptable**") - skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems

☐ If unknown - skip to 8 and enter "IN" status code.

Rationale and Reference(s):_____

[4] Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies

[5] The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

7 Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

☐ If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

☐ If no - enter "NO" status code in #8

☐ If unknown - enter "IN" status code in #8

Rationale and
Reference(s):_____

8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

☒ YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the DETREX DETROIT SITE A facility, EPA ID # **MID 091 605 972**, located at 12886 EATON AVE, DETROIT, MI 48227. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater." This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

☐ NO - Unacceptable migration of contaminated groundwater is observed or expected.

☐ IN - More information is needed to make a determination.

Completed by (signature) [signature] Date 2/10/2006
(print)DANIEL P. DAILEY
(title)SENIOR ENVIRONMENTAL ENGINEER

Supervisor (signature) [signature] Date 2/10/06
(print)STEPHEN G. BUDA
(title)UNIT CHIEF, HAZARDOUS WASTE MANAGEMENT UNIT
(EPA Region or State)MICHIGAN DEQ

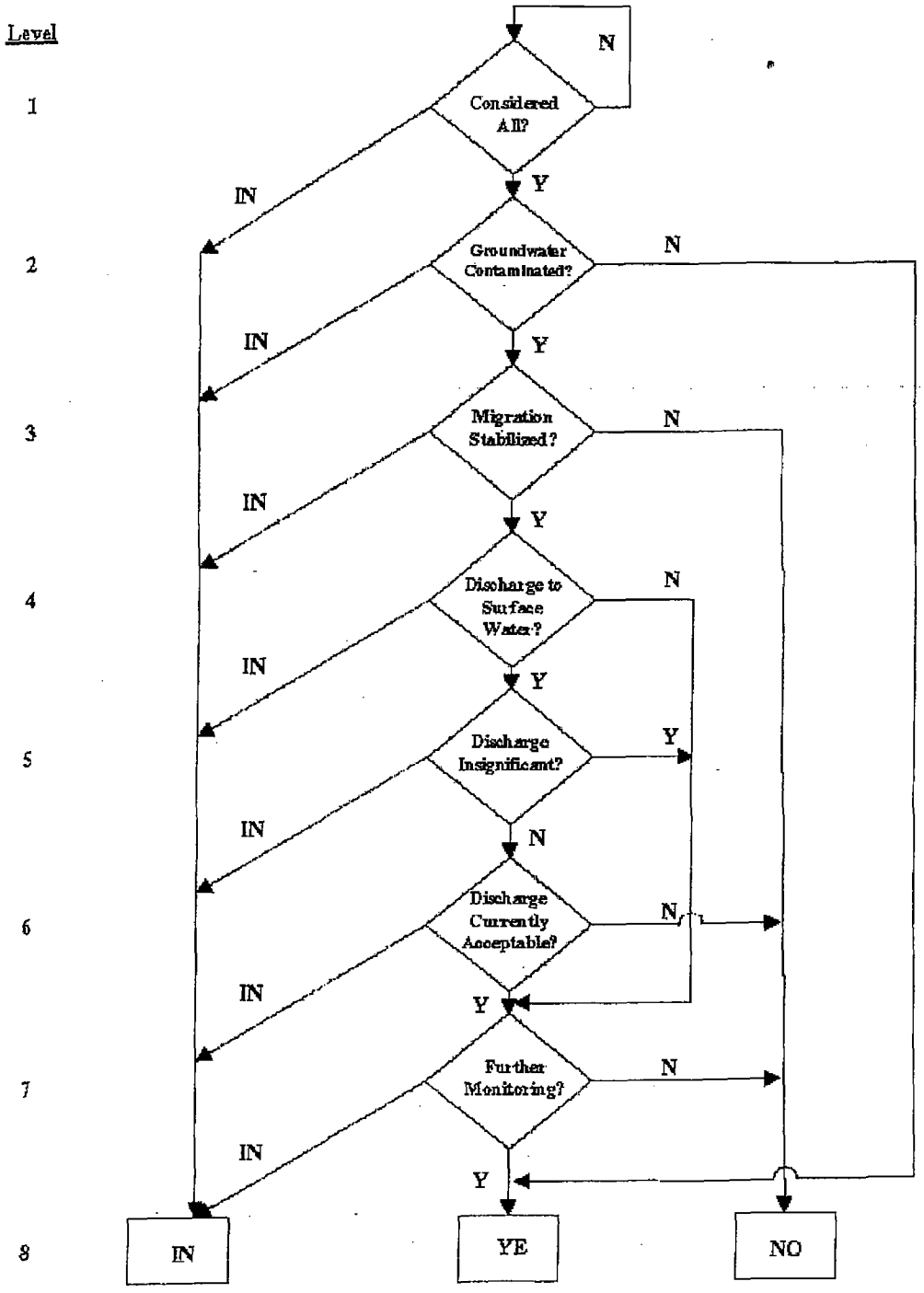
Locations where References may be found:
HWS Library, Corrective Action File.

Contact telephone and e-mail numbers

(name)
(phone #)
(e-mail)

Facility Name:
EPA ID#:
City/State:

MIGRATION OF CONTAMINATED GROUNDWATER UNDER CONTROL (CA 750)



soil and materials engineers, inc.
43980 Plymouth Oaks Blvd. Plymouth, MI 48170-2584 (313) 454-9900 FAX (313) 454-0629

Kenneth W. Kramer, PE
Frank A. Henderson, PG
Garrett H. Evans, PE
Starr D. Kohn, PhD, PE
Edward S. Lindow, PE
Robert C. Rabeler, PE
Gerald M. Belian, PE
Robert E. Zayko, PE

Cheryl Kehres-Dietrich, CGWP
Larry P. Jedele, PE
Gerard P. Madej, PE
Timothy H. Bedenis, PE
J. William Coberly, CET
Chuck A. Gemayel, PE
Truman F. Maxwell, CPA
Timothy J. Mitchell, PE
John C. Zarzecki, CWI

August 17, 1994

Ms. Shari Sutker
U.S. Environmental Protection Agency
Region V
77 West Jackson Boulevard
Chicago, IL 60604-3590

RE: Field Work Schedule
Detrex Corporation
12886 Eaton Avenue
MID 091 605 972
SME Project No. PE-21229

30 Years of Service

Dear Ms. Sutker:

Soil and Materials Engineers, Inc. (SME) has been retained by Detrex Corporation to enact the RFI Workplan approved by the U.S. EPA Region V on July 28, 1994. In accordance with the approved RFI, field activities associated with the soil investigation are scheduled to begin on Monday, August 22, 1994. We anticipate this phase of field activities will be completed on Friday, August 26. This letter is a follow-up to the voice mail message we left for you on Monday, August 15, 1994 regarding the field work schedule.

If you have any questions, you may contact us at (313) 454-9900.

Very truly yours,

SOIL AND MATERIALS ENGINEERS, INC.

Laura S. Badalamenti
Project Hydrogeologist

CA Kehres-Dietrich
FOR
Robert J. Nowakowski, CPG
Project Consultant

cc: Rhonda Blayer, MDNR
Bill Moore, Detrex Corporation
Ron Swan, Detrex Corporation

JUL 26 1994

CERTIFIED MAIL # P 851 379 060
RETURN RECEIPT REQUESTED

Mr. William M. Moore, Jr.
Corporate Manager
Environmental Compliance
Detrex Corporation
P.O. Box 5111
Southfield, Michigan 48086-5111

HRP-8J

Re: RFI Workplan, PEAR,
and Final QAPjP Approval
Detrex Corporation
MID 091 605 972

Dear Mr. Moore:

The United States Environmental Protection Agency (U.S. EPA) and Michigan Department of Natural Resources have reviewed the revised Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Workplan and Preliminary Ecological Assessment Report (PEAR) dated June 2, 1994. The revised Workplan and PEAR were submitted in response to my letter dated March 1, 1994, granting conditional approval of the Workplan.

Based on the review, the U.S. EPA has determined that the revised Workplan and PEAR satisfactorily meet the conditions specified in my letter. In addition, the U.S. EPA's Central Regional Laboratory has evaluated and found Detrex's Laboratory, Enviotech, acceptable to use for this RFI project. No other laboratory may be used without prior written approval from the U.S. EPA. You are hereby authorized to begin implementation of the RFI Workplan in accordance with the schedules outlined in the Workplan.

A Draft RFI Report and Draft Ecological Assessment Report should be submitted within 30 days of completing the RFI. The format for these reports can be found in Tasks IV and V of Attachment I and Task 3 of Attachment IV to the Federal Hazardous and Solid Waste Amendments (HSWA) permit. In addition, Detrex shall submit signed bimonthly progress reports in accordance with Conditon VI.A. of the Federal HSWA permit. If you have any questions regarding this approval, please contact Ms. Shari Sutker of my staff, at (312) 886-6151.

Sincerely,

ORIGINAL SIGNED BY/
KARL E. BREMER

Karl E. Bremer, Chief
RCRA Permitting Branch

cc: Ronda Blayer (MDNR)

#52

bcc: Allen Debus

CONCURRENCE REQUESTED FROM RPB			
SC/BR SECRTY		NL 7/20	7/22/94
OTHER STAFF	RPB STAFF	RPB SECTION CHIEF	RPB BRANCH CHIEF
	7/21/94	7/21	7/22/94

MAR 0 1 1994

HRP-8J

CERTIFIED MAIL # P401 182 445
RETURN RECEIPT REQUESTED

Mr. Bill Moore
Corporate Engineering & Risk Management
Detrex Corporation
12886 Eaton Avenue
Detroit, Michigan 48227

Re: RFI Workplan Conditional Approval
Detrex Corporation
MID 091 605 972

Dear Mr. Moore:

The United States Environmental Protection Agency (U.S. EPA) and the Michigan Department of Natural Resources (MDNR) have completed a joint review of the Detrex Corporation, Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Tasks I, II, the RFI Workplan, and the Preliminary Ecological Assessment Report (PEAR) submitted on October 8, 1992. Based upon this review, the U.S. EPA hereby approves the RFI Workplan and the PEAR with the conditions outlined in Attachment I to this letter.

As part of this approval, the U.S. EPA's Central Regional Laboratory (CRL) shall conduct an audit of the laboratory to be retained by Detrex for analytical services. This audit is necessary to ensure that the laboratory selected is suitable for the analytical work proposed in the RFI. Please be aware that this audit must be conducted prior to implementation of the RFI Workplan. Detrex may expedite the audit process by providing the contact name, telephone number, and address of the laboratory to the U.S. EPA before submitting the revised RFI Workplan.

Please submit a revised RFI Workplan and a Draft Ecological Assessment Report, reflecting the conditions outlined in Attachment I, within 60 days of receipt of this letter. If you have any questions regarding this conditional letter of approval, please contact Shari Kolak of my staff, at (312) 886-6151.

Sincerely,

Karl E. Bremer, Chief
RCRA Permitting Branch

cc: Ronda Hall (w/attachment)(MDNR)
Allen Debus (w/attachment)

bcc: file

WMD\OR\RPB\MI Section\slk-nl\SLK\2-10-94;2-18-94\user\share\kolak\detrfi.3js

CONCURRENCE REQUESTED FROM RPB			
SC/BR SECRTY	2/10	2/18 NL	2/28/94
OTHER STAFF	RPB STAFF	RPB SECTION CHIEF	RPB BRANCH CHIEF
	SLK 2-23-94	2/25/93	2/28/94

ATTACHMENT I
U.S. EPA AND MDNR COMMENTS ON THE DETREX CORPORATION RFI WORKPLAN

I. Project Management Plan, Section 3

1. Any corrective action considered shall be protective of human health, safety, welfare, and the environment in accordance with Title 40 Code of Federal Regulations (CFR) 264.101, and §299.503(4) and §299.515a of the State of Michigan's Hazardous Waste Management Act, 1979 P.A. 64 as amended (Act 64).

2. Detrex shall use the cleanup criteria established pursuant to Michigan's Environmental Response Act, 1982 P.A. 307, as amended (Act 307), in developing and implementing its corrective action program at the facility. The cleanup criteria established under Act 307 represent Michigan's cleanup policy which is more stringent than Federal standards. Three different cleanup criteria exist under Act 307: Types A, B, and C. The Type A cleanup criteria is based on native background for naturally occurring compounds and nondetect (based on Department-approved method detection limits) for other compounds. The Type B cleanup criteria is based on generic risk assumptions. The Type C cleanup criteria is based on site-specific risk assumptions and long-term institutional controls.

   Detrex may opt to use one or a combination of the cleanup criteria. However, only adherence to the Types A and/or B criteria will satisfy the corrective action performance standards and result in a determination that no further action is necessary.

3. Use of any of the MDNR Act 307 cleanup criteria requires the consideration of several media and potential migration pathways including: groundwater, surface water, soil, and air. In conducting its investigations and preparing the RFI report, Detrex shall address all migration pathways. Emphasis shall be placed on the surface water and soil migration pathways. With respect to soil, Detrex shall address the impacts to surface water and groundwater, and the impacts of inhalation and direct human contact. As referenced in Section 1, page 5 of the RFI Workplan, of particular concern is the fill material surrounding the utility lines. The RFI report shall contain a detailed discussion regarding the level of emphasis placed upon each migration pathway and justification for the lack of emphasis on some pathways, if applicable.

4. Use of the MDNR Act 307 cleanup criteria requires proper characterization of the nature and extent of hazardous waste and hazardous constituents present in the media referenced in Condition I.B.3 above. The RFI Workplan outlines the initial soil sampling strategy. However, it does not address contingency

sampling activities. Detrex shall conduct additional sampling and analyses as necessary to define the extent of contamination (i.e., the extent of the area exceeding the Type A cleanup criteria) and achieve compliance with the applicable MDNR Act 307 cleanup criteria chosen by the Company. All additional sampling and analyses activities shall be conducted in accordance with the RFI Workplan, as approved by the U.S. EPA.

II. Quality Assurance Project Plan, Section 4

1. Vinyl chloride and trichloroethene shall be added to the list of target compounds in Paragraph 2.4, Table 1.

2. Paragraph 2.4, Table 1 shall be modified to include 1,2-dichloroethane and 1,2-dichloroethene (total).

3. The target method detection limits (TDLs) for the target compounds listed in Paragraph 2.4, Table 1 shall be as follows:

Target Compound	TDL (part per billion)
methylene chloride	10
1,1-dichloroethane	10
1,2-dichloroethane	10
1,1,2,2,-tetrachloroethane	10
1,2-dichloroethene (total)	10
1,1,1-trichloroethane	10
1,1,2-trichloroethane	10
tetrachloroethene	10
toluene	10
ethylbenzene	10
xylenes (total)	30
chloroform	10
vinyl chloride	10
trichloroethene	10

4. Detrex shall provide information regarding the capabilities of the photoionization detector used to screen the soil samples in the RFI report.

5. A discussion of MDNR Act 307 cleanup criteria shall be added to the list of project objectives in Paragraph 2.5.

6. Detrex shall provide evidence to support the statement, in Paragraph 2.6, that no contamination exists below a depth of 15 feet.

7. Sampling intervals shall occur every 2.5 feet and at changes in lithology.

8. At least one soil sample per soil type per soil boring location shall be analyzed in the laboratory, irrespective of the photoionization detector readings for that soil boring.

9. Consideration shall be given to the analytical results obtained from previous soil sampling and analyses activities conducted at the facility, as appropriate.

10. Paragraph 5.2 incorrectly states that groundwater sampling will be conducted as part of the RFI. Groundwater samples are not proposed to be collected as part of the RFI and should not be discussed in the RFI Workplan.

11. A table shall be added to Paragraph 2.6.4 which summarizes the total number of samples, quality control samples, duplicates and blanks, to be taken at each sampling location. Sampling locations shall correspond to all sampling points shown on Attachment 6 of Section 4.

12. Paragraph 5.2.1.1 discusses the method by which the soil boring locations will be determined. The soil boring locations shall be as proposed in Attachment 6 of Section 4.

13. Sampling methods employed during the RFI shall ensure that discrete soil samples are collected. Hand augers do not typically provide for the collection of discrete soil samples at depths greater than approximately 3 to 5 feet. Composite soil samples are not acceptable.

14. The soil cuttings generated during soil sampling activities shall be containerized and properly accumulated, pending laboratory analysis of the soil. Based on the analytical results, the soil shall be characterized and managed in accordance with the applicable State requirements. If Detrex wishes to backfill the boreholes prior to receipt of the laboratory analytical results, the boreholes may be backfilled with a bentonite/cement slurry as discussed in paragraph 5.2.1.3.

15. Paragraph 5.3 and 5.4.4 incorrectly states that the holding time for Volatile Organic Compounds in soil samples is 14 days from the Verified Time of Sample Receipt (VTSR) by the laboratory. The correct holding time for soil samples shall be 14 days from the period of time from collection to that of analysis, for samples preserved with acid.

16. The 4-ounce flint glass jar, described in Paragraph 5.3, shall not be used for collecting soil samples. Detrex shall use a 4.41-ounce, 120-ml wide-mouth glass vial with polypropylene cap and teflon liner for collecting soil samples.

17. Cleaning procedures for sample containers shall be consistent with the U.S. EPA guidance document entitled "Specifications and Guidance for obtaining Contaminant-Free Sample Containers," dated April 1990. Therefore, in regard to Paragraph 5.3, all containers shall be rinsed three times with tap water prior to rinsing three times with ASTM Type I organic-free water. The containers, liners, and caps shall be oven dried at 105 ^{0}C-125 ^{0}C for 1 hour and allowed to cool to room temperature in an enclosed contaminant-free environment.

18. Detrex shall use sample tags in addition to sample labels as discussed in Paragraph 5.4.3. Sample tags shall be completed for each sample using waterproof ink and contain the sample number and sample location. Sample locations shall correspond to all sampling points shown on Attachment 6 of Section 4.

19. Chain-of-custody forms, discussed in Paragraph 5.4.4, shall be completed in the field. In addition, a field logbook shall be used to record field measurements and sampling equipment used. Whenever a sample is collected or measurement made, a detailed description of the location shall be recorded. The date, time, depth, volume, and sample identification number shall also be recorded.

20. All equipment and personal protective clothing decontamination shall be conducted in an area that is designed and operated to collect all materials resulting from the decontamination efforts; and to prevent run-on, run-off and the release of these materials to the environment.

21. Paragraph 6.1.1 shall be modified to provide for the submission of one trip blank, per shipping container, with the soil samples for laboratory analyses.

22. One field blank shall be collected for each piece of sampling equipment per sampling event. Field blanks shall be collected at anytime after the first soil sample is obtained and the sampling equipment has been subsequently decontaminated.

23. The duplicate samples addressed in paragraph 6.1.3 shall be discrete and not taken from composited samples.

24. Referencing the "U.S. EPA Contract Laboratory Program (CLP) Statement of Work (SOW) for Organic Analysis, Multi-Media, Multi-Concentration," Document Number OLM01.8, August 1991, revision in Sections 4.0, 7.2, 8.0, 9.1, 10.1-10.3, 11.0, and 13.0-15.0 is not appropriate. The RFI Workplan shall include specific information for the laboratory used pertaining to the analytical calibration procedures, including frequency; the internal quality control checks; data reduction, validation, and reporting; performance and system audits; instrument maintenance; precision, accuracy, and completeness tests; corrective action;

and quality assurance reports. In addition to the above, the RFI Workplan shall include a statement that the CLP SOW shall be followed without deviation.

25. Any confirmation sampling data used to verify that a given area is not contaminated above acceptable levels that have been established and to support any remediation decisions shall include related quality control data. At a minimum, documentation shall be submitted for field blanks, trip blanks, duplicate spikes, field and laboratory duplicates, control limits, sampling holding times, and method detection limits.

26. The U.S. EPA appropriate preparation and analytical methods or the U.S. EPA approved standard methods (CLP SOW) shall be used in preparing and analyzing the soil samples. The selected methods shall be capable of achieving the TDLs specified in Condition II.3 of this attachment. Specific references to the preparation method, analytical method (by section number), detection limit, and specific procedural requirements for quality assurance/quality control measures shall be provided for each parameter being analyzed and shall be included in the RFI Workplan.

27. The contact name, telephone number, and location of the laboratory, to be retained by Detrex for analytical services, shall be included in the RFI Workplan.

28. Paragraph 12.0 shall be modified to address preventive maintenance of field equipment.

III. Data Management Plan

1. Detrex shall develop a Data Management Plan to document all RFI activities and maintain such documentation in a project file.

2. The project file shall contain data records which include information regarding unique sample or field measurement codes, sampling or field measurement locations and sample measurement types, sampling or field measurement raw data, laboratory analysis identification numbers, properties or components measured and the results of the analyses.

3. The project file shall contain tabular displays presenting the raw data, the results for each constituent monitored, the data reduction for statistical analysis, and summaries of all data.

4. The project file shall contain graphical displays presenting the sampling locations and sampling grid, the boundaries of the sampling area, and areas where more data are required. In addition, the file shall contain displays of the levels (averages and maxima) of contamination at each sampling location, the geographical extent of contamination, the changes in concentration in relation to the distance from the source, time, depth or other

parameters, as appropriate, and the features affecting intramedia transport and potential receptors.

5. The project file shall include the field notes of all the RFI activities as described in Condition II.19 of this Attachment.

IV. Health and Safety Plan/Corrective Action Plan, Section 5

1. The Detrex Health and Safety plan shall be consistent with the requirements outlined in Attachment I, Task III.D.2 of the Federal HSWA permit.

2. The plan shall include a list of personnel, both primary and alternates, responsible for site safety response operations.

3. Detrex shall describe the known health and safety hazards and evaluate the risks associated with each contaminant present in on-site soils. The hazards and risks should also be evaluated for each activity (i.e., drilling, sampling equipment) conducted during the RFI Workplan.

4. Detrex shall require all on-site field personnel to provide certification of having completed a 40-hour training course in accordance with OSHA 29 CFR 1910.

5. Personal decontamination procedures for on-site field personnel shall include, but not be limited to, washing with soap followed by a water rinse. In addition, equipment decontamination procedures shall include steam cleaning, if necessary. All contaminated disposable field equipment shall be collected and disposed of according to applicable Federal, state, and local regulations.

6. In addition to briefing local health officials, Detrex shall inform the public of activities to be conducted during implementation of the RFI Workplan. This may include holding informal meetings or distributing newsletters to inform and keep the public informed during the RFI process. An information repository, containing documents related to the RFI, should be kept in a convenient public facility (i.e., local library or town hall) so that the public can review all relevant information on corrective action activities.

VI. Preliminary Ecological Assessment Report, Section 6

1. The scientific names of the pioneer-type plant species, described in Paragraph 3 of Task I, must be included in the report.

2. Detrex shall contact the local U.S. Fish and Wildlife Office and get a written response as to the occurrence of any endangered species in the area of the facility. This information shall be included in Paragraph 4 of Task I.

3. The discussion on fate and transport of contaminants, in Paragraph 5 of Task I, is not sufficient. Detrex shall identify the area of contaminated fill, the amount of contamination, and the potential fate and transport of these contaminants in the environment.

4. The discussion on potential exposure points for ecological receptors, in Paragraph 6 of Task I, shall include a statement that the gravel area in the eastern portion of the site supports pioneer-type plant species. In addition, this paragraph shall include a discussion on the probable fate and transport of spill contaminants in the gravel area and also identify the potential exposures from fugitive volatile organic emissions.

5. The plan states, in Paragraph 7 of Task I, that no known impacts to biota in the area have been identified. Since no animal species and only pioneer-type plant species were identified in the area, a large impact to biota must have occurred. The cause of this impact shall be explained in the report.

6. Detrex shall explain, in Paragraph 8 of Task I, the normal facility practices in regard to personal protective equipment and how this practice minimizes dermal exposures. In addition, Detrex shall assess the exposures to human health and the environment from air emissions resulting from facility operations.

7. Detrex shall utilize the information obtained from past sampling activities conducted at the facility and the additional information obtained from conducting the sampling activities described in the RFI Workplan to fully characterize the existing facility conditions, including the extent of contamination, and prepare a draft Ecological Assessment Report which contains the information outlined in Task 3 of Attachment IV of the Federal permit.

STATE OF MICHIGAN

JOHN ENGLER, Governor

DEPARTMENT OF NATURAL RESOURCES

John Hannah Building, P.O. Box 30241, Lansing, MI 48909

ROLAND HARMES, Director

May 3, 1993

Mr. Richard Traub, HRP-8J
U.S. EPA, Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Dear Mr. Traub:

SUBJECT: RFI Work Plan
Detrex Corporation, Detroit, Michigan
MID 091 605 972

The Michigan Department of Natural Resources (Department), Waste Management Division (Division), has reviewed the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Work Plan and Preliminary Ecological Assessment Report which were submitted by Detrex Corporation (Detrex) on October 15, 1992. The referenced documents were submitted in accordance with Conditions III.G.1.a. and VI.A, and III.D and VI.D, respectively, of the federal Hazardous and Solid Waste Amendments (HSWA) Permit issued to Detrex by the U.S. Environmental Protection Agency (U.S. EPA) on June 29, 1992.

Based upon this review, our comments and suggested conditions for approval are provided below.

I. <u>Project Management Plan, Section 3-</u>

A. Comments-

1. The Division reviewed the technical strategy outlined in Section 3 of the RFI Work Plan with respect to the cleanup criteria (Types A, B, and C) established pursuant to Michigan's Environmental Response Act, 1982 P.A. 307, as amended (Act 307). The cleanup criteria established in Act 307 represents the state's cleanup policy and is used in evaluating all cleanup proposals in Michigan. Use of the Act 307 cleanup criteria requires consideration of several media and potential migration pathways, including: groundwater, surface water, soil (impacts to surface water, groundwater, inhalation, and direct human contact), and air. The Type A cleanup criteria is based on native background for naturally occurring compounds and

non-detect (based on Department approved method detection limits) for other compounds. The Type B cleanup criteria is based on generic risk assumptions. The Type C cleanup criteria is based on site-specific risk assumptions and institutional controls.

The investigative strategy outlined in Section 3 suggests that the two migration pathways pertinent to this site are surface water run-off and soil. This conclusion appears to be based on the results of previous investigations at the facility. Based on existing facility geological and hydrogeological conditions, the demonstrations made by Detrex in support of a groundwater monitoring waiver during the operating license review and issuance process under Michigan's Hazardous Waste Management Act, 1979 P.A. 64, as amended (Act 64), and the air pollution controls at the facility, the Division supports emphasizing the investigative efforts of the RFI on soil and surface water, but Detrex must address all migration pathways.

B. Conditions for Approval-

1. Any corrective action considered shall be protective of human health, safety, welfare, and the environment in accordance with §§299.9503(4) and 299.9515a of Act 64.

2. Detrex shall use the cleanup criteria established pursuant to Michigan's Environmental Response Act, 1982 P.A. 307, as amended (Act 307), in developing and implementing its corrective action program at the subject facility. The cleanup criteria established under Act 307 represents Michigan's cleanup policy. Three different cleanup criteria exist under Act 307: Types A, B, and C. The Type A cleanup criteria is based on native background for naturally occurring compounds and non-detect (based on Department approved method detection limits) for other compounds. The Type B cleanup criteria is based on generic risk assumptions. The Type C cleanup criteria is based on site-specific risk assumptions and institutional controls.

   Detrex may opt to use one or a combination of the cleanup criteria. However, only adherence to the Types A and/or B criteria will satisfy the corrective action performance standards and result

in a determination that no further action is necessary. Type C cleanups are site-specific and often require some type of land use restrictions and long-term institutional controls.

3. Use of any of the Act 307 cleanup criteria requires the consideration of several media and potential migration pathways, including: groundwater, surface water, soil (impacts to surface water, groundwater, inhalation, and direct human contact), and air. In conducting its investigations and preparing the RFI report, Detrex shall address all migration pathways. Emphasis shall be placed on the surface water and soil migration pathways. With respect to soil, Detrex shall address the impacts to surface water and groundwater, and the impacts of inhalation and direct human contact. As referenced in Section 1 of the RFI Work Plan, of particular concern is the fill material surrounding the utility lines. The RFI report shall contain a detailed discussion regarding the level of emphasis placed upon each migration pathway and justification for the lack of emphasis on some pathways, if applicable.

4. Use of the Act 307 cleanup criteria requires proper characterization of the nature and extent of hazardous waste and hazardous constituents present in the media referenced in Condition I.B.3 above. The RFI Work Plan outlines the initial soil sampling strategy. However, it does not address contingency sampling activities. Detrex shall conduct additional sampling and analyses as necessary to define the extent of contamination (i.e., the extent of the area exceeding the Type A cleanup criteria) and achieve compliance with the applicable Act 307 cleanup criteria chosen by the company. All additional sampling and analyses activities shall be conducted in accordance with the RFI Work Plan, as approved by the U.S. EPA.

II. <u>Quality Assurance Project Plan, Section 4-</u>

A. Comments-

1. With respect to Paragraph 2.5.1, all pertinent migration pathways must be addressed. See previous comment under Project Management Plan, Section 3, Comment I.A.1.

2. Paragraph 5.2 incorrectly states that groundwater sampling will be conducted as part of the RFI. Groundwater samples are not proposed to be collected as part of the RFI.

3. Referencing the "U.S. EPA Contract Laboratory Program Statement of Work for Organic Analysis, Multi-Media, Multi-Concentration," Document Number OLM01.8, August 1991 revision in Sections 4.0, 7.2, 8.0, 9.1, 10.1-10.3, 11.0, and 13.0-15.0 is not appropriate. See Condition II.B.15 for discussion regarding such references.

4. Specific references to the sample preparation and analysis methods (by number) must be included in the RFI Work Plan according to the guidance contained in Attachment I of the federal HSWA permit. Each method contains specific procedural requirements for quality assurance/quality control measures.

B. Conditions for Approval-

1. Vinyl chloride and trichloroethene shall be added to the list of target compounds in Paragraph 2.4, Table 1.

2. Paragraph 2.4, Table 1 shall be modified to include 1,2-dichloroethane and 1,2-dichloroethene (total).

3. The target method detection limits (TDLs) for the target compounds listed in Paragraph 2.4, Table 1 shall be as follows:

Target Compound	TDL (part per billion)
methylene chloride	10
1,1-dichloroethane	10
1,2-dichloroethane	10
1,1,2,2,-tetrachloroethane	10
1,2-dichloroethene (total)	10
1,1,1-trichloroethane	10
1,1,2-trichloroethane	10
tetrachloroethene	10
toluene	10
ethylbenzene	10
xylenes (total)	30
chloroform	10
vinyl chloride	10
trichloroethene	10

4. Detrex shall provide information regarding the capabilities of the photoionization detector used to screen the soil samples in the RFI report.

5. Sampling intervals shall occur every 2.5 feet and at changes in lithology.

6. At least one soil sample per soil type per soil boring location shall be analyzed in the laboratory, irrespective of the photoionization detector readings for that soil boring.

7. Consideration shall be given to the analytical results obtained from previous soil sampling and analyses activities conducted at the facility, as appropriate.

8. Paragraph 5.2.1.1 discusses the method by which the soil boring locations will be determined. The soil boring locations shall be as proposed in Attachment 6 of the Quality Assurance Project Plan contained in Section 4 of the RFI Work Plan.

9. Sampling methods employed during the RFI shall ensure that discrete soil samples are collected. Hand augers do not typically provide for the collection of discrete soil samples at depths greater than approximately three to five feet. Composite soil samples are not acceptable.

10. The soil cuttings generated during soil sampling activities shall be containerized and properly accumulated, pending laboratory analysis of the soil. Based on the analytical results, the soil shall be characterized and managed in accordance with the applicable state requirements. If Detrex wishes to backfill the boreholes prior to receipt of the laboratory analytical results, the boreholes may be backfilled with a bentonite/cement slurry as discussed in paragraph 5.2.1.3.

11. All equipment and personal protective clothing decontamination shall be conducted in an area that is designed and operated to collect all materials resulting from the decontamination efforts; and to prevent run-on, run-off, and the release of these materials to the environment.

12. Paragraph 6.1.1 shall be modified to provide for the submission of one trip blank, per shipping

container, with the soil samples for laboratory analyses.

13. One field blank shall be collected for each piece of sampling equipment per sampling event. Field blanks shall be collected at anytime after the first soil sample is obtained and the sampling equipment has been subsequently decontaminated.

14. The duplicate samples addressed in paragraph 6.1.3 shall be discrete and not taken from composited samples.

15. Referencing the "U.S. EPA Contract Laboratory Program Statement of Work for Organic Analysis, Multi-Media, Multi-Concentration," Document Number OLM01.8, August 1991 revision in Sections 4.0, 7.2, 8.0, 9.1, 10.1-10.3, 11.0, and 13.0-15.0 is not appropriate. The RFI report shall include specific information for the laboratory used pertaining to the analytical calibration procedures, including frequency; the internal quality control checks; data reduction, validation, and reporting; performance and system audits; instrument maintenance; precision, accuracy, and completeness tests; corrective action; and quality assurance reports.

16. Any confirmation sampling data used to verify that a given area is not contaminated above acceptable levels that have been established and to support any remediation decisions shall include related quality control data. At a minimum, documentation shall be submitted for field blanks, trip blanks, duplicate spikes, field and laboratory duplicates, control limits, sampling holding times, and method detection limits.

17. Appropriate U.S. EPA preparation and analytical methods or U.S. EPA approved standard methods shall be used in preparing and analyzing the soil samples. The selected methods shall be capable of achieving the TDLs outlined in Condition II.B.3. Specific references to the preparation method, analytical method, detection limit, and specific procedural requirements for quality assurance/quality control measures shall be provided for each parameter being analyzed and shall be included in the RFI report.

III. **Data Management Plan**

A. Comments-

1. A data management plan is not included in the RFI Work Plan.

B. Conditions for Approval-

1. Detrex shall document all RFI activities and maintain such documentation in a project file.

   a. The project file shall contain data records which include information regarding unique sample or field measurement codes; sampling or field measurement locations and sample measurement types; sampling or field measurement raw data; laboratory analysis identification numbers; properties or components measured; and the results of the analyses.

   b. The project file shall contain tabular displays presenting the raw data; the results for each constituent monitored; the data reduction for statistical analysis; and summaries of all data.

   c. The project file shall contain graphical displays presenting the sampling locations and sampling grid; the boundaries of the sampling area and areas where more data are required; the levels of contamination at each sampling location; the geographical extent of contamination; the contamination levels, averages and maxima; the changes in concentration in relation to the distance from the source, time, depth or other parameters, as appropriate; and the features affecting intramedia transport and potential receptors.

   d. The project file shall include the field notes for all RFI activities.

IV. **Health and Safety Plan/Corrective Action Plan, Section 5-**

A. Comments-

1. The Division did not review in detail and is not approving the Health and Safety Plan/Corrective

Action Plan since this is under the jurisdiction of the Michigan Office of Safety and Health Administration.

2. It is recommended that the conditions for approval of the RFI Work Plan include a general condition that the health and safety plan implemented in conjunction with the RFI be consistent with the requirements outlined in Attachment 1, Task III, Item D.2 of the federal HSWA Permit.

V. Preliminary Ecological Assessment Report, Section 6-

A. Comments-

1. Detrex has provided a preliminary ecological assessment report in accordance with Conditions III.D and VI.D of the federal HSWA permit. Review of the report indicates that it meets the requirements outlined in Attachment IV, Task I of the federal HSWA permit. The additional information obtained as a result of the sampling activities outlined in Sections 3 and 4 of the RFI Work Plan will assist Detrex in preparing the draft ecological assessment report.

2. As stated previously, the cleanup criteria applicable to the Detrex facility are those established under Act 307 (Types A, B, and C). Use of the cleanup criteria require consideration of the factors outlined in Attachment IV of the federal HSWA permit.

B. Conditions for Approval-

1. The preliminary ecological assessment report is hereby approved. Detrex shall utilize the information obtained from past sampling activities conducted at the facility and the additional information obtained from conducting the sampling activities described in the RFI Work Plan to fully characterize the existing facility conditions, including extent of contamination, and prepare a draft ecological assessment report which contains the information outlined in Attachment IV, Task 3 of the federal HSWA permit.

Michigan's RCRA Grant Work Plan for Fiscal Year 1993 requires that Detrex's RFI Work Plan be approved in the third quarter, and that the Department conduct oversight of the RFI

activities in the fourth quarter. The Department recommends approving Detrex's RFI Work Plan, subject to the conditions noted above. It is our position that our review of the RFI Work Plan and the completion of this letter identifying our comments and suggested conditions for RFI Work Plan approval fulfills our third quarter commitment with respect to the RFI Work Plan.

If you have any questions, please contact Ms. Ronda L. Hall, Environmental Engineer, Waste Management Division, at telephone number 517-373-9548, or me.

Sincerely,

Steve Buda

Steve Buda, P.E., Chief
Hazardous Waste Permits Unit
Waste Management Division
517-373-7924

cc: Ms. Lorraine Kosik, U.S. EPA
Ms. Shari Kolak, U.S. EPA
Ms. De Montgomery/Ms. Elaine Bennett, DNR
Ms. Jeanette Noechel, DNR-Livonia
Ms. Ronda L. Hall, DNR
Corrective Action File

DETREX CORPORATION

P.O. Box 5111, Southfield, MI 48086-5111

FAX: (313) 358-5803

TELEPHONE: (313) 358-5800

April 26, 1994

Mrs. Shari Sutker
U. S. Environmental Protection Agency
Region V
77 West Jackson Boulevard
Chicago, IL 60604-3590

RE: Detrex Corporation
12886 Eaton Ave.
Detroit, MI 48227
MID 091 605 372
RFI Workplan Conditional Approval Letter Dated March 1, 1994

Dear Mrs. Sutker:

Detrex Corporation received your March 1, 1994 letter on March 4, 1994. According to paragraph three (3) of your cover letter, Detrex is required to submit the revised RFI workplan reflecting the conditions you stated within 60 days of the receipt of your letter. This would make the revised RFI and other information due May 4, 1994.

Detrex originally obtained Testing Engineers and Consultants, Inc. (TEC) to provide the assistance in the original RFI submittal. There has been a turn over at TEC hence the original people involved with the project are no longer there. Detrex has obtained another consultant, Soil and Materials Engineering, Inc. (SME) to complete this work. The project coordinator with SME is Bob Nowakowski. Mr. Nowakowski was involved in the project with TEC.

With the change of consultants, several task that had already been performed at TEC are having to be duplicated. Because of this duplication of effort, Detrex is requesting an extension, on submitting the RFI revision and other data, by 30 days, or to June 4, 1994.

If there are questions you have concerning the above request, or if you wish to discuss in more detail, please do not hesitate to contact me at 810/ 358-5800. I look forward to hearing from you concerning this request.

Sincerely,

William M. Moore, Jr.
Corporate Manager
Environmental Compliance

cc: R. Blayer, MDNR
R. Nowakowski, SME
file